

NEUTRON CAPTURE CROSS SECTIONS: FROM THEORY TO EXPERIMENTS AND BACK

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Starting from the recent developments of radioactive ion beams physics to experiments at the CERN spallation neutron source, n_TOF, direct measurements as well as indirect methods of extracting neutron capture cross sections will be reviewed. The theoretical modeling of this basic reaction process is necessary in the widest range of applications, from nuclear data for advanced nuclear technologies to nuclear astrophysics. An outlook of possible developments of the experimental plan for measurements at CERN n_TOF will be presented together with some implications on the theoretical modeling.